

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,220	<b>Applicant(s)</b> MIZONE ET AL.	
	<b>Examiner</b> JEREMIAH SMITH	<b>Art Unit</b> 4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 1, 4 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 3 and 5 is/are rejected.
- 7) ☒ Claim(s) 2, 3 and 5 is/are objected to.
- 8) ☒ Claim(s) 1-6 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. <u>herewith</u> .                           |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application  |
| Paper No(s)/Mail Date <u>6/8/2006</u> .  | 6) <input type="checkbox"/> Other: _____.                          |

JRS

***Detailed Action***

***Election/Restrictions***

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1, drawn to product.  
Group II, claim(s) 2, drawn to process.  
Group III, claim(s) 3, drawn to process.  
Group IV, claim(s) 4, drawn to process.  
Group V, claim(s) 5, drawn to apparatus.  
Group VI, claim(s) 6, drawn to apparatus.

2. The inventions listed as Groups I through VI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

3. The common technical feature among inventions I through VI is a heat setting foamed elastic strip material. This can not be a special technical feature because such a material is known in the art (EP 0326704, abstract, a "foamed" "thermoset" which is also a "sheet" is a heatsetting foamed elastic strip material).

4. During a telephone conversation with Allan Schiavelli on August 21, 2008 a provisional election was made with traverse to prosecute the inventions II, III, and V of claims 2, 3, and 5. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1, 4, and 6 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakata USP 5476563 in view of Goldwasser USP 4376834 and further in view of Tabata et al. USP 2003/0106740 A1.

8. Regarding claims 2 and 3, Nakata teaches a method of producing an elastic strip material, comprising the steps of: extruding out a fluid mixture from a nozzle of a resin extruder forming a stream of the extrudate ("extruder that extrudes soft vinyl chloride resin", column 2 lines 49-50), subsequently guiding the stream having not solidified yet into a liquid heating zone ("water tank...water heater", column 3 lines 24-26) whose interior has been heated to or above a desired temperature ("water is kept at a fixed temperature, 50-60 degrees Celsius", column 3 lines 12-13), so that the stream thus heated is allowed to solidify ("stabilize", column 4 line 18) and simultaneously pressed

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into a desired peripheral shape while advancing through the heating zone (Molding rolls for shaping, items 3 and 5 of Figure 1, are partially submerged in the fluid, item 17; furthermore, the level of the water or the height of the molding rolls can be adjusted further submerging the rolls, column 4 lines 31-33. Shaping will occur as the material advances through the liquid heating zone), and finally discharging from the liquid heating zone the solidified and pressed stream so as to be cooled down to an ambient room temperature, thereby giving the elastic strip material (after passing the last roll, item 8 of Figure 1, the pressed and shaped product will exit to atmosphere and inherently reach ambient temperature). Nakata does not teach the method wherein the polymer is a heat setting foamed material comprising a polyurethane prepolymer, a latent solidifier obtained by deactivating a solid polyamine, and a compressed gas.

9. In the analogous art of the extrusion of polymers for use in household goods (see abstract), Goldwasser teaches a method of forming a foaming polyurethane to be extruded (extrusion, column 11 line 45) comprising a polyurethane prepolymer ("polyisocyanates", abstract, isocyanates are polyurethane prepolymers), a latent solidifier ("isocyanate reactive material", abstract) obtained by deactivating a solid polyamine (see abstract), and a compressed gas ("blowing with inert gases", column 11 lines 29-30) for the benefit of producing a heat resistant polymer with properties comparable to thermoplastic polymers. It would have been obvious to one of ordinary skill in the art at the time of the invention to include foaming a polyurethane, including a latent solidifier as claimed and a compressed gas as set forth in Goldwasser, in the

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Nakata method, for the benefit of producing a heat resistant polymer with properties comparable to thermoplastic polymers.

10. the art combination still does not explicitly detail foaming a heat setting polyurethane composition.

11. In an analogous art of preparation of shaped thermosetting polyurethane articles comprising polyamine and polyurethane prepolymers for household applications, Tabata teaches a method of forming a heat setting polyurethane to be foam-extruded comprising a polyurethane prepolymer, a latent solidifier obtained by deactivating a solid polyamine, and a compressed gas (“a thermosetting composition consisting of a polyurethane prepolymer and an inactivated solid polyamine as a latent hardener [solidifier]. A gas is dispersed in the thermosetting composition, prior to feed into a mold, so that it can foam and solidify”, see abstract) for the benefit of producing a heat resistant foamed member with properties comparable to thermoplastic polymers.

12. It would have been obvious to a person having ordinary art at the time of invention to modify the method of the Nakata and Goldwasser combination, in view of Tabata for the benefit of producing a heat resistant foamed polyurethane article with properties comparable to thermoplastic polymers.

13. Regarding claim 5, the previous combination of Nakata and Goldwasser remains as applied above, and further, Nakata teaches an apparatus (see Figure 1), comprising a resin extruder (item 1), a liquid tank (item 9) having and cooperating with at least one rotor (“forming roll”, item 5), a motor for driving the rotor to rotate in situ (such a motor would inherently be necessary), and a heating bath (item 17) including the liquid tank

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(item 9), the resin extruder comprising a reservoir for storing (such a reservoir would inherently necessary for an extruder intended to extrude soft vinyl chloride as described in column 2 lines 49-50) therein a composition, and a nozzle (see column 2 line 51) for extruding a fluid mixture to form a stream, the rotor being constructed such that the resin stream of fluid mixture `a` effluent from the nozzle is guided into a hot liquid (50-60 degree Celsius water positioned below the nozzle, see column 3 line 13 and Figure 1) held in the liquid tank and caused to advance through it, the heating bath having therein a trough ("concave groove", column 3 line 61) formed in and along the periphery of the rotor so as to receive the resin stream of fluid mixture `a`, and a surface shaping member disposed close to and facing the trough ("molding roll", item 3) so that the fluid mixture `a` is heated in the heating bath and form a resin strip `b`, the heating bath further comprising an outlet guide ("feeding roll", item 8) for directing the resin strip `b` towards the outside of the liquid tank, thereby giving the material.

14. Nakata and Goldwasser does not appear to teach a gas feeding pipe for charging the material to be extruded.

15. In analogous art, Tabata teaches feeding gas to a reservoir ("a given amount of gas will be fed into the cylinder [reservoir], before a batch of the thermosetting composition is delivered to the cylinder", paragraph [0073]) where it may contact the composition to be extruded for the benefit of producing a polymer which will foam after extrusion.

16. It would have been obvious to a person having ordinary skill in the art at the time of invention to modify the apparatus of Nakata and Goldwasser, with teachings of

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Tabata by including a gas feeding pipe into the reservoir for the benefit of producing a polymer which will foam after extrusion.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USP's 4444716; 5266251; 5595695; 6432335; 2004/0020853.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMIAH SMITH whose telephone number is 571-270-7005. The examiner can normally be reached on Monday to Thursday, 7:30 AM to 5:00 PM and every other Friday, 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on 571-272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRS

*/Angela Ortiz/*

***Supervisory Patent Examiner, Art Unit 4151***